Air Quality Characterization for Environmental Public Health Tracking

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Key Words: air quality, ground level and satellite data, monitoring output, data integration and assimilation, air quality modeling, forecasting, support for public health officials

The CDC was given the mandate to develop a National Environmental Public Health Tracking Network (NEPHTN). The NEPHTN will require both environmental and public health data to be "routinely" available at a national scale. Historically, the only source of air quality data that was available on an ongoing and systematic basis at national levels was generated by ambient air monitoring networks put in place for the US EPA's Air Quality Programs. While these networks are being redesigned and updated to address current and anticipated air quality issues, they are still generating routine data. In addition, new data sets are becoming routinely available from air quality models and satellites that can provide additional information to characterize air quality. With the public's expanding interest in the serious health effects associated with ozone and fine particles (and other environmental hazards), public health officials are looking for ways to better use the available air quality data to develop ambient air quality concentration fields for use in the NEPHTN. This effort will pilot development of integrated, geo-coded, air quality data sets from routinely available sources for specific use by public health officials (through CDC health assessments).

The proposed approach is to build a data set from ambient monitoring data, satellite data, modeling results, emissions data, and other applicable data using advanced statistical techniques to combine the data sets. The resulting air quality map would ultimately provide "continuous" data surfaces for US. Initially, a "test" application will be built with EPA, NASA, NOAA, and CDC distributing data sets through collaboration with State air quality and health departments and the health science community. This project will test the viability, usefulness, and scientific uncertainties associated with the proposed approach.

The proposed Science Forum poster will describe this effort and provide examples of improved air quality maps, while highlighting the partnerships within EPA and with external partners (CDC, NOAA, and NASA).